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GEOGRAPHICAL RECORD.

PETRIFIED FORESTS OF ARIZONA.—In the Report of the Smithsonian Institution for 1899, just issued, is Prof. Lester F. Ward's account of the petrified forests in Arizona and their condition at the close of the year 1899.

Silicified wood is found in many parts of Arizona, New Mexico, and Utah, but the particular region known as the " Petrified Forest " lies in the area between the Little Colorado river and the Rio Puerco, 15 miles east of their junction, 17 miles east of Holbrook, and 6 miles south of Adamana station on the Santa Fé Pacific Railroad. It is about 8 miles square.

The region consists of the ruins of a former plain, with an altitude of 5,700 to 5,750 feet above the sea. The plain has been eroded to a depth of nearly 700 feet, and is cut into ridges, buttes, and small mesas, with valleys, gorges, and gulches between.

The strata are of clay-beds, sandstone shales, and massive sandstones. The clays are purple, white, and blue, the purple predominating; the sandstones chiefly of a reddish brown, though some are light-brown, gray, or whitish in colour.

The mesas are formed by the resistance of the massive sandstone layers to erosion, and vary in size from mere capstones to tables several miles in extent, stretching to the east and the northwest. The drainage is to the south, and in the middle of the area is the arroyo, which has been mistaken for Lieut. Whipple's Lithodendron Creek. The valley of this creek broadens out at the southern end; and here lies the principal petrified forest, known to some as Chalcedony Park. The petrified logs are countless at all horizons, and lie in the greatest profusion on the knolls, buttes, and spurs, and in the ravines and gulches, while the ground is studded with fragments of all shapes and sizes, exhibiting all the colours of the rainbow.

At the northern end of the area is another centre of accumulation, and two miles to the southeast a third, which is called the Middle Forest.

All these forests are, geologically speaking, entirely out of place, and the trunks bear evidence of having dropped down to their present position from a higher horizon.

Their original position is not to be discovered by ascending the mesas included in the area (though some of these rise 400 feet above the bed of the creek), and it is only when the plateau is reached, 700 feet above the valley, that the stratum is found in which the fossil wood is embedded. On the west side the plateau is about two miles wide, and has a western escarpment, with another valley extending both south and west of it. This plateau, or elongated mesa, is highest on its western side, rising to the 5,750-foot contour line immediately above the escarpment; and here is exposed a fine series of petrified trunks fringing the mesa, with many weathered out on the slope or rolled down into the valley. A few feet below the actual summit is a bed, some twenty feet thick, of coarse, gray, conglomeratic, cross-bedded sandstone, at many places in which were firmly embedded logs and branches of petrified wood, often projecting from it in the cliffs and clearly in place. After several days' study on all sides of the area, Prof. Ward became convinced that this was the true source of the fossil wood.

At the extreme northern end of the area is a small mesa, at an elevation of nearly 5,700 feet. It is isolated, and its nearly flat top, of about half a mile in diameter, is a stratum of coarse conglomeratic sandstone, twenty to thirty feet in thickness, and in all essential respects identical with that of the elongated mesa on the southwest side of the area. The petrified wood, though less abundant here, is still common, embedded in the ledges.

One of the most celebrated objects in this whole region is the Natural Bridge. This is a great petrified trunk lying across a cañon 20 feet deep and forming a bridge. It is on the northeast side of the small, isolated mesa. The bed in which the tree lies is the coarse sandstone which holds all the petrified wood, and the Natural Bridge is one of the few logs that are in place.

The trunk is complete to the base, where it is abruptly enlarged, and shows the manner in which the roots were attached. The cañon is about thirty feet wide where it is spanned by the tree in a diagonal direction, with a measurement of forty-four feet between the points at which it rests on the sides of the cañon. The exposed length of the trunk is 111 feet, and its diameter, above the middle of the cañon, is over three feet; and at this point there is no incrustation of sandstone on the tree. As in the case of practically all the petrified logs of the region, there is no indication of limbs or branches at the top.

Many facts stand in the way of the supposition that the trees grew where they are found. It is stated by some writers that stumps occur erect with their roots in the ground, but Prof. Ward was unable to find an instance or to learn of one from the residents of the country. The one tree which he found standing on end had its roots high in the air.

His conclusion is that the indications point to transportation of the trees by water, their accumulation in masses, and subsequent petrifaction.

Relic-hunters and enterprising manufacturers have done their best to carry off these stones. Prof. Ward talked with a teamster who was employed for a long time hauling trunks out of the upper forest to Carrizo Station, and was told by him that though many carloads had been shipped away there had been left at the station a much greater quantity, which had been carried off piecemeal by visitors.

Prof. Ward recommends that the region of these forests be declared a reserve and protected by law.

ACCORDING TO A REPORT of the U. S. Consul-General at Rio de Janeiro, there are now about 2,700,000 foreigners settled in Brazil. Of these 1,300,000 are Italians, 800,000 Portuguese, Germans 300,000, Spaniards 100,000, Poles 80,000, French 10,000, English 5,000, North Americans 500, and all other nationalities 100,000.

As a rule, the foreigners become Brazilians. The Consul-General declares that a small percentage of the colonists—1 or 2 per cent.—retains foreign nationality.

COMMERCE OF THE PATAGONIAN COAST.—The *Bulletin* of the Bureau of American Republics, Vol. X, No. 5, takes from a report of the German Consulate at Buenos Aires some data on the Territories of Chubut and Santa Cruz, in the southern part of the Argentine Republic. These Territories stretch over ten degrees of latitude.

Madrin, the port of the valley of Chubut, is at the head of Golfo Nuevo. In 1899 its exports amounted to 6,000 tons of wheat and 300 tons of wool, besides sheepskins and cattle. The wool is still often packed in bags. The wheat of Chubut is of excellent quality.

The State telegraph line now ends at Madrin, but is to be extended to other southern ports. A railroad is in operation between Madrin and Rawson, at the mouth of the Chubut river, and another, now under construction, will connect Madrin with the salt marsh region of the Valdez Peninsula. At present the bags of salt and the unpressed wool are piled up in the open air on the beach at the Piramides anchorage.

At Puerto Camarones, on the bay of the same name, the wool of the English, Swiss, and German sheep-farmers accumulates for months on the beach, waiting to be shipped.

All these ports are in Chubut.

At Puerto Deseado, the most northern port of Santa Cruz Territory, wool is the chief export.

Puerto San Julian is difficult of access at low tide.

Santa Cruz, at the mouth of the Santa Cruz river, consisted, three years ago, of ten houses. It has now 500 inhabitants and 100 houses and sheds. Its annual export of wool amounts to 1,000 tons, and it imports considerable quantities of wire and corrugated sheet-iron, provisions, lumber, etc.

The back-country, or hinterland, of Santa Cruz, is a magnificent pasture land.

The most southern port of this territory is Puerto Gallegos, with a population of 1,000, and an increasing trade in wool, tallow, prepared and fresh meat, pelts, etc.

These southern Patagonian towns keep up their communication with Europe through Punta Arenas, the thriving Chilian port on the Strait of Magellan.

The Monthly Weather Review, Vol. XXIX, No. 3, condenses the various reports of the storm, with red rain and red dust, throughout southern Europe early in March.

On the 10th of March there was a sirocco, with red dust, in the morning in Sicily, in the afternoon in southern Italy; on the 11th red and yellow dust fell with snow in Brandenburg and Pomerania, with east wind by midday, and on the lower Elbe and Weser with north wind by the evening of the 11th.

Prof. A. W. Rücker, who was at Taormina, reported in *Nature*, of March 28:

> On March 12 the sirocco was blowing and the hills were wrapped in mist, but the fog assumed a yellow hue, and the sun, which at times could be seen through it, was a bright blue; this was caused and accompanied by a copious fall of red dust. Some which I shook off my hat was quite dry, and on looking at it through a low-power lens all the granules seemed to be spherical, except a very few grains which looked like quartz . . . Italian papers state that the dust fell also at Naples and Palermo in such quantities that the streets looked red and the people were frightened.

The dust that fell in Germany was examined microscopically and chemically, and was found to be perfectly similar to the sands of the Sahara.

In Palermo the sky was covered with dark red clouds after 8 A. M. of the 10th of March. The city was bathed in red, and at noon-time the drops of heavy rain looked like blood. At Naples, about 5.45 P. M. of the 10th, the sky became bright yellow and afterwards fiery red. The clothing of those in the street was entirely covered with dust. It was difficult to keep the eyes open. Nothing like it had been seen in Naples since the eruption of Vesuvius in 1872.

This is the first time that Sahara dust has been known to be carried to England.

La Géographie, of April 15, prints the following comparative table of the commercial movement of eleven ports in Western Europe:

1880.	TONS.	*1890.*	TONS.
London	5,970,341	London	7,708,705
Liverpool	4,913,324	Liverpool	5,782,351
Antwerp	3,063,825	Hamburg	5,202,825
Marseilles	2,769,047	Antwerp	4,506,277
Hamburg	2,766,806	Marseilles	3,458,914
Havre	1,969,857	Rotterdam	2,918,425
Rotterdam	1,681,650	Havre	2,159,213
Bremen	1,169,466	Bremen	1,733,809
Amsterdam	1,076,887	Amsterdam	1,484,250
Bordeaux	1,012,880	Dunkirk	1,256,518
Dunkirk	765,968	Bordeaux	1,091,097

1895.		*1899.*	
London	8,435,676	London	9,437,950
Hamburg	6,254,493	Hamburg	7,765,950
Liverpool	5,598,341	Antwerp	6,872,848
Antwerp	5,322,262	Rotterdam	6,323,072
Rotterdam	4,177,478	Liverpool	6,152,187
Marseilles	3,430,124	Marseilles	4,699,168
Bremen	2,183,274	Bremen	2,406,748
Havre	2,031,023	Havre	2,175,691
Amsterdam	1,281,669	Amsterdam	1,812,500
Dunkirk	1,178,243	Dunkirk	1,365,826
Bordeaux	799,201	Bordeaux	975,102

In the next three or four years London will probably lose the first place. Who would have believed ten years ago that the commerce of Antwerp or Rotterdam would so soon exceed that of Liverpool?

THE CENSUS OF IRELAND.—The returns show a population of 4,456,546; a loss since 1891 of 5.2 per cent.

Leinster has lost 41,297, Munster 98,568, Ulster 38,463, and Connaught 69,876.

Three counties—Dublin, Down, and Antrim—show an increase of 7 per cent. in the ten years. In every other county the population has diminished, the greatest decrease being 19.6 per cent. in Monaghan.

The number of Roman Catholics is 3,310,028, a decrease of 6.7 per cent. in the ten years; the Episcopalians number 579,385, a decrease of 3.5 per cent.; the Presbyterians are 443,494, a decrease of 0.3 per cent., and the Methodists are 61,255, an increase of 10.4 per cent.

Of the cities Belfast shows an increase of 28 per cent., Londonderry 20 per cent., and Dublin 7 per cent.

THE ITALIAN MINISTRY of Agriculture, Industry, and Commerce publishes the results of the Fourth Census of the population of Italy, taken on the 9th of February, 1901, compared with the data of the Third Census, made in 1881:

DIVISIONS.	POPULATION.		INCREASE.	YEARLY INCREASE PER 1,000.
	1881.	1901.		
Piedmont	3,070,250	3,326,311	256,061	4.4
Liguria	892,373	1,080,944	188,571	11.1
Lombardy	3,680,615	4,278,188	597,573	8.5
Venetia	2,814,173	3,130,429	316,256	5.9
Emilia	2,183,391	2,451,752	268,361	6.4
Tuscany	2,208,869	2,548,154	339,285	8.0
The Marches	939,279	1,064,749	125,470	7.0
Umbria	572,060	644,367	72,307	6.6
Latium	903,472	1,206,354	302,882	17.5
Abruzzi e Molise	1,317,215	1;442,365	125,150	5.0
Campania	2,896,577	3,142,378	245,801	4.4
Apulia	1,589,064	1,949,423	360,359	11.9
Basilicata	524,504	* 490,000	* 34,504	* 3.4
Calabria	1,257,883	1,375,760	117,877	4.9
Sicily	2,927,901	3,529,266	601,365	10.7
Sardinia	682,002	789,314	107,312	8.2
	28,459,628	32,449,754	3,990,126	7.3

* In the Basilicata the population diminished. The births for the period 1882–1900 exceeded the deaths by 80,266, but the emigration for the same period amounted to 168,978, and two-thirds of this number settled abroad.

Of the cities Bologna has 152,009 inhabitants, an increase of 28,735; Catania 149,694, an increase of 49,277; Florence 204,950 (increase 35,949); Genoa 234,800 (increase 55,285); Leghorn 98,505 (increase 890); Messina 149,823 (increase 23,326); Milan 491,-

460 (increase 169,621); Naples 563,731 (increase 69,417); Palermo 310,352 (increase 65,361); Rome 463,000 (increase 162,533); Turin 335,639 (increase 82,807); Venice 151,841 (increase 19,015).

THE CENSUS OF AUSTRIA-HUNGARY.—The *Deutsche Rundschau für Geographie und Statistik, No. 7, XXIII Jahrgang*, prints the results of the census in Austria-Hungary taken on the 31st of December, 1900, and compared with that of 1890:

	1890.	*1900.*
Lower Austria	2,661,799	3,086,382
Upper Austria	785,831	809,918
Salzburg	173,510	193,247
Styria	1,282,708	1,356,058
Carinthia	361,008	367,344
Carniola	498,958	508,348
Coast Land (Trieste, Istria, etc.)	695,384	755,183
Tyrol and Vorarlberg	928,769	979,878
Bohemia	5,843,094	6,318,280
Moravia	2,276,870	2,435,081
Silesia	605,649	680,529
Galicia	6,607,816	7,295,538
Bukovina	646,591	729,921
Dalmatia	527,426	591,597
Austria	23,895,413	26,107,304

The increase in the ten years is 2,211,891, or 9.3 per cent.

According to the Hungarian official returns, the population of Hungary proper on the 31st of December, 1900, was 16,792,399 (including 100,928 military), and that of Croatia-Slavonia 2,411,132. The percentage of increase in the ten years was: Hungary 10.03; Croatia-Slavonia, 9.5.

The total population of the Monarchy at the close of the year 1900 was:

Austria	26,107,304
Hungary	19,203,531
Occupied Territory (Bosnia and Herzegovina)	1,589,165
	46,900,000

THE HUNGARIAN GOVERNMENT intends opening a waterway from the Oder to the Adriatic Sea. This will require the canalisation of the Oder from Kosel to Oderberg, a length of 43½ miles. From

Oderberg the line will cut through the watershed above the Iablunka Pass, continue to Sillein, and reach the Danube at Komorn. It will then follow the Danube to Vukovar and the Samac Canal to the Save river, and along this for 180 miles to Karlstadt, or Brod, on the Kulpa. From Brod to Fiume a canal of 35 or 40 miles in length must be constructed.

The length of navigation from Stettin to Fiume will be 1,370 miles, 870 of which are by natural waterways.

This canal will be of great advantage to the German trade with the Levant, and will make Fiume and Budapest important centres of international commerce. (*Geographische Zeitschrift*, *VII Jahr. 5 Heft.*)

Dr. Theobald Fischer, of Marburg University, publishes in the *Ergänzungsheft*, No. 133, of *Petermanns Mitteilungen* the scientific results of a journey made in Western Morocco in 1899 in company with Count Pfeil and Capt. Wimmer.

Landing at Tangier, Dr. Fischer made some geological excursions in the neighbourhood, and then took ship for Mogador, from which place he followed the route through the Tensift Valley to Marrakesh. Between Mogador and the mouth of the Tensift is the range of the Jebel Hadid or Iron Mountain, 30 miles in length and 2½ miles broad.

The country between the sea and Marrakesh is a characteristic steppe. From Marrakesh the march was to the eastward as far as Demnat, which is situated on an outlier of the Atlas at an altitude of 3,200 feet. Here Dr. Fischer turned to the north to the Umer-Riba. This valley, like that of the Tensift, is cut through a steppe. Beyond this, still to the north, begins the zone of cultivated land, of an amazing fertility, parallel with the coast from El-Arish to Mogador, and with a breadth of between fifty and sixty miles.

Following the coast, the expedition returned to Tangier.

What Dr. Fischer calls the *Vorland* of the Atlas is divided into three natural zones: that of the oases, watered by the streams from the Atlas, and inhabited by an industrious population, who live on the products of their orchards; the steppe region, partly mountainous and furnishing pasturage for flocks and herds; and then the cultivated strip along the coast, which Dr. Fischer will study in a new expedition to be sent out by the Hamburg Geographical Society.

In 1892 the interior of Dahomey was an unknown country, but its exploration, begun immediately after the war, has now been nearly completed.

Lower Dahomey was first mapped. The capture of Behanzin opened the country of the Mahis. The establishment of the post of Carnotville, in 1894, was followed by the exploration of Gurma and by the surveys made between Carnotville and Bussa on the Niger, the place where Mungo Park met his death. Lieut. Hourst's Niger expedition completed the topographical reconnoissance of Upper Dahomey; and in 1896–97 the central regions, Borgu and middle Gurma, were explored by Captains Baud and Vermeersch, who determined the orography of the Atakora Mountains, the watershed of the country. From this mountain-knot, rising to a height of a little more than 3,000 feet, flow the streams which find their way to the Bight of Benin, to the Volta river, and to the Niger. By the junction of Capt. Baud's party with that of Voulet the Dahoman routes were united with those of the French Sudan.

A map of the country of the Baribas, the work of Lieut. Boissonas, fixes the course of the affluents of the Niger between Say and Ilo, and corrects the positions of the kingdoms of Bonay and Kandi. The points of the Franco-German frontier between Dahomey and Togo have been marked. With the surveyed line of the future railroad to the north, and the delineation of the Franco-English frontier, between Dahomey and Lagos, there will be nothing wanting to acquaintance with the geography of Dahomey. (*Revue Française*, *Avril.*)

THE TWENTY-NINTH issue of the List of Chinese Lighthouses, Light-Vessels, Buoys, and Beacons, published by the Imperial Maritime Customs, gives the name and location of 112 lights along the coast and in the Yangtze river, from Hoi-how, in the island of Hainan, to Newchwang, in Manchuria. There are also 87 buoys and 78 beacons.

THE PEARY ARCTIC CLUB'S EXPEDITION.—Mr. H. L. Bridgman, Secretary of the Peary Arctic Club, sends the following communication:

NEW YORK, *June 12, 1901.*

To the Members of the Peary Arctic Club :

The following memorandum is respectfully transmitted for your information. Mail for Etah, Greenland, and all points north, will close at the Standard Union office at noon, July 10.

H. L. BRIDGMAN,
Secretary.

The Peary Arctic Club has entrusted to its secretary, Herbert L. Bridgman, the command of its expedition of 1901, the fourth of the series since Mr. Peary departed on his attempt to attain the Pole. This will be Mr. Bridgman's third cruise to the Arctic, the first having been as a member of the Falcon Auxiliary Expedition of 1894, and the second in command of the Diana Expedition of 1899. Dr. Frederick A. Cook, of Bushwick Avenue, surgeon of the first Peary, 1891, and of the Belgian Antarctic Expedition, has accepted the position of surgeon, and will, on the cruise, prosecute his studies of the ethnology of the Arctic highlanders of North Greenland. The club's chartered steamer *Erik*, formerly the property of the Hudson Bay Company, now belonging to Capt. James A. Farquhar, of Halifax, N. S., having been thoroughly overhauled and refitted, is now on her way from London to St. Johns, N. F., where the captain and crew will be shipped, whence she will proceed for Sydney, C. B., for coal and supplies, taking her departure from that port direct for the North about the middle of next month. A touch of romance is connected with the *Erik's* service, her owner and commander for next summer first meeting in Halifax, N. S., in June, 1897, the captain at that time commanding the mail steamer *Harlaw*, which was then in port. A year later Capt. Farquhar's *Newfoundland*, laden with flour, sugar, pork, and other stores, while in Cuban waters looking for a cargo of sugar, was seized by a United States gunboat as a blockade runner and towed into Charleston, S. C. The secretary of the Peary Arctic Club telegraphed to Capt. Farquhar offering assistance, which was not, however, availed of, and after due investigation the *Newfoundland* was released. But out of the incident grew a friendly relation, which culminated in the placing of the *Erik* in the service of the Peary Club. Capt. Farquhar will take stores for one year to guard against any possible detention, and will, with authority from the Royal Greenland Trading Company to land, call at Godhavn and Upernavik, the most northern stations for any possible information of Peary. The *Erik* is certified by the highest marine authority in London to be in the best condition and well adapted for her Arctic work, and is pronounced by Capt. Farquhar to be in every respect superior to the *Hope* or the *Diana*, which have both been used in the Peary service. Capt. Grey, master of the *Erik* for more than fifteen years, says that she is a very fine sea-going ship, and does good work in the ice. George H. Carr, a member of Peary's 1893–94 party, after a personal inspection the other day of the ship, reports :

"Beginning aloft, so far as I could ascertain, all of the rigging, spars, masts, etc., are in first-class condition. The foremast and mainmast are entirely new, and the mizzenmast is, I understand, only two years old. In the forecastle the crew's accommodation is far better than that in the *Falcon*, being much lighter and better laid out. The forecastle contains sixteen berths and room for a good, large stove for winter use. Under the crew's quarters is a large stock room, which, of course, will come in very handy. There is also a carpenter's shop and blacksmith's shop, both of them limited in size. In addition to the crew's quarters in this part of the vessel there is sufficient room for about eight other persons, and I take it that these quarters would be used by the officers of the ship, since there is no deck-house, as was the case in the *Falcon*. The hold of the ship is quite large and roomy, and well reinforced throughout with heavy timbers, which have evidently been recently put in. The ship's sides are, I understand, double-sheathed, and therefore in pretty good shape to stand an ordinary ice squeeze. A pair of new knee braces had been put in. The cross timbers in the hold are of good, solid oak, although looking somewhat the worse for wear. The ship is quite tight and makes no water; in fact, when I was in the hold there was little or no bilge to be seen. The bridge is wider than was the *Falcon's*, and the officer's quarters in the afterpart of the ship are more conveniently laid out than in the *Falcon's*, the captain's room being especially large and roomy; it not only boasts of a washstand, but quite a large couch also. There are about six feet of space between the berth and the door. The three other cabins leading off the saloon are fitted with double berths, and are also much roomier than were our quarters on the *Falcon*, where one of us turned out at a time in order to dress. The *Erik* has a complete new suit of sails; this is in addition to her present suit. The chart-house, which is situated under the bridge, is very small. However, there is room in it for a single berth. The engines are being thoroughly overhauled, the condensers going through a thorough state of cleaning, scraping, etc. Six tons of coal per day give an average of 7½ knots per hour. This is about the same speed as the *Falcon.* Peary has already seen the *Erik*, and in fact wished to buy her from the Hudson Bay Company prior to Harmsworth's gift of the *Windward.* Capt. Grey, who has always sailed this ship, states that she is very easily handled in the ice. She has a double wheel to her rudder, thus allowing four men to handle her should a necessity arise."

The provisional project of the cruise, so far as arranged, is as follows:

1. Leave Sydney, C. B., July 15, or as soon after as practicable, and proceed as rapidly as possible to Etah, North Greenland, mailing home letters from Domino Run or other convenient Labrador port, and Godhavn, and calling at Cape York, Saunders Island, and other native settlements for news from Peary.

2. Effect junction at earliest possible moment with *Windward*, deliver mail, and, if necessary, transfer stores and coal.

3. Peary's verbal or written instructions will supersede the foregoing, and are, as far as possible, to be fully and faithfully performed.

4. Relieve Stein's Fort Magnesia, Payer Harbour, Bedford Pim Island, unless earlier meeting with Stein and Warmbath should render this unnecessary.

5. Deliver mail for the *Fram* at most convenient point without interfering with the general duties of the expedition.

6. Furnishing directly or indirectly written or photographic matter for publication; trading with natives, scientific or sporting excursions, except by express permission by representative of Peary Arctic Club, are forbidden.

7. Leave Etah for Northern port, Aug. 27 or 28, and return to reach Sydney not later than Sept. 15.

8. Subject to the discipline of the ship and the conditions of navigation, the authority of the representative of the Peary Arctic Club is paramount, and in event of his disability, and in absence of other directions from Peary, shall devolve upon surgeon, and then upon the captain and officers in order of rank.

The summer of 1901 is likely to mark the culmination of the work of the Peary Club, though its members, confident as they have been from the outset in Mr. Peary's success, are pledged to stand by him unfalteringly to the end. Three years have elapsed since Mr. Peary left America, and two full seasons' work is to be learned upon the return of the *Erik.* More interesting, in a personal and dramatic way, than the geographic work of Mr. Peary, is the fate of his wife and daughter and of the steamer *Windward*, from which nothing has been heard since her departure from Godhavn, Greenland, Aug. 20, 1900. Expectations and instructions then were that the *Windward*, with Mrs. Peary and Miss Peary, would return in the autumn, and the hope now is that their detention was due to Mr. Peary's orders, and for reasons which were satisfactory to him. The *Erik* will take to Mr. Peary, for the first time, news of the death of his mother in Portland, Me., last November; of the Baldwin-Ziegler Expedition, and many other facts of personal and general interest. Prof. L. C. Stone, of the Polytechnic Institute, and Herbert Berri, his pupil, of Brooklyn, son of Mr. William Berri, will be guests of the Peary Arctic Club on the cruise.

THE BALDWIN-ZIEGLER POLAR EXPEDITION.—Prof. E. B. Baldwin, the leader of this expedition, left New York on the 14th of June, in the *Friedrich der Grosse*, accompanied by Mr. William Ziegler, who supplies the funds for the enterprise.

It is understood that the start will be made in July from Tromsö, Norway, and that a base will be established in the Franz Josef archipelago.

Practically all that is known as yet of the plans is contained in the following report of Prof. Baldwin's remarks at the dinner of the Arctic Club on the 24th of May. In accepting an American flag presented to him, Mr. Baldwin said:

> I am firmly convinced that this flag will be carried to victory in this expedition. I am unable to say much at this moment of the plans which have been decided upon. The starting-point will be Franz Josef Land, and our party will be sufficient in number to avail ourselves of every resource in the land, in the way of food, by hunting bears and other animals. We shall begin our journey across the ice with 400 dogs and fifteen Siberian ponies, and with the assistance of these I believe it will be possible to achieve the object we shall set out to accomplish. With the proper management of our large pack of dogs I don't see why we should not succeed in carrying the Stars and Stripes to the North Pole. We also hope to do a great deal of scientific work. Comrades will be engaged for this branch of our operations who have had Arctic training. I would like to be able to name the men who will comprise our party, but there are several reasons which prevent me making known the personnel of the expedition at this time.

The expedition is supplied for three years, though it is said that Mr. Baldwin expects to reach the Pole and return within twenty-seven months.

At the end of two years a supply of food and material will be sent to Franz Josef Land, and the party will remain in the Arctic until its purpose is accomplished.

The daily papers published on the 12th of June the following dispatch:

> QUINCY, Ill., June 1.—Forty balloons have been shipped to Tromsö, Norway, where the outfit will be added to the equipment of the Baldwin-Ziegler North Pole expedition.
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> These are not for carrying passengers, but to mark the path of the expedition. To each will be attached ten buoys, ten feet apart, hanging one below the other, weighing ten pounds each, and arranged with a liberator for detaching the buoys one at a time as they strike the earth. Each buoy will contain a message, showing the latitude where the balloon was sent up, and such other words as the explorers care to leave behind.
>
> The buoys are made of copper and cord, and are shaped like a top. In the centre is a hollow space, which will contain the messages. When a certain amount of gas has escaped the balloon will descend. As soon as it gets near enough to the earth for one of the buoys to strike, the lower one is immediately detached, and, liberated from the weight, the balloon at once begins another ascent. This operation is re-

peated automatically, until all of the buoys have been dropped, when the balloon, now emptied of its gas, collapses, and sinks to the ground. As there are forty of these, this operation will be continued until the 400 buoys are scattered over the Arctic regions.

NINE EXPEDITIONS are now in the Arctic, or on the way thither :

R. E. Peary's expedition, including the *Windward.*

Admiral Makaroff's party in his ice-breaker.

Robert Stein's party in Ellesmere Land.

Capt. Sverdrup's expedition in the *Fram.*

The search-party, led by Mr. Stökken, to learn the fate of the three men lost from the *Stella Polare.*

Capt. Bernier's Canadian expedition, following the route of the *Jeannette.*

Baron Toll's expedition to the Taimyr Peninsula.

Capt. Bauendahl's party in the fishing-boat *Matador.*

The Ziegler-Baldwin polar expedition.